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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,871	02/27/2002	Lawrence J. Almaleh	1609	4718

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EXAMINER	
NGUYEN, THUAN T	
ART UNIT	**PAPER NUMBER**
2685	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,871	ALMALEH ET AL.	
	Examiner	Art Unit	
	THUAN T. NGUYEN	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-57 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8,10-27,29-42 and 44-57 is/are rejected.

7)☒ Claim(s) 9,28 and 43 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 27 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-57 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

3. Claims 1-8, 10-27, 29-46, and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat, Jr. et al. (U.S. Patent 6,963,552 B2) in view of Hugenberg et al. (US Patent No. 5,924,039).

Regarding claim 1, Sabat discloses "a method of designing a first antenna system in a communication system, the method comprising: retrieving demographic information of customers from a first database system; determining communication traffic based on the demographic information; retrieving parameters of a second antenna system from a second database system; determining an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system; and determining a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system", i.e., Sabat discloses a MMDS communication system

with a plurality of radio access nodes (RAN), each RAN comprising two modules for interfacing to first and second base station (col. 3/lines 25-59), which refers to more than two antenna base station systems (Fig. 1) that based on the demographic information or population information collected from each antenna system (col. 1/lines 10-44 for the background of population creates communication traffic and the arrangement of communication traffic for users is an important parameter for mobile cellular system designing, and the system design comprising the designing or configuration of antennas within the cellular communication network, refer to col. 7/lines 19-38 & col. 10/lines 28-34), the system controls and designs the antenna configuration for the receiving stations or subscribers based on the traffic communication or population/density of the users/viewers/subscribers within the service areas (refer to Figs. 1 & 2, and col. 9/line 54 to col. 10/line 34 for antenna design, antenna sizing and performance).

Sabat does not further show "the configuration of the first antenna system is based on the communication traffic and the parameters of the second antenna system"; however, Hugenberg teaches the same technique as in the prior art, the designing of the antennas is corresponding to the population and the demographic information of the customers (col. 4/lines 42-64), and clearly, as shown in Fig. 5, for instance, the configuration of the first antenna system (network cell site) would be depended on the communication traffic and parameters of the second antenna system (users/clients) due to the demographic information of less or more subscribed users and other factors as communication traffic, multiple access techniques and speeds etc (refer to col. 7/lines 10-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sabat's system with disclosed technique of Hugenberg in order to obtain an enhanced communication system that dynamically providing services to the

users wherein the designing of the antennas is corresponding to the population and the demographic information of the customers and the configuration of the first antenna system is based on the communication traffic and the parameters of the second antenna system.

As for claim 2, in view of claim 1, Sabat discloses "wherein the steps of determining the antenna system configuration for the first antenna system and determining the performance of the first antenna system are repeated until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions" (refer to col. 9/lines 52-65 for the antenna configuration is optimized based on geographic location or traffic and government restriction, as noted in col. 1/line 54 to col. 2/line 8 due to zoning by local government).

As for claim 3, in view of claim 1, Sabat discloses further "comprising generating an antenna output based on the antenna system configuration and the performance of the first antenna system" (Figs. 1 & 2 for overlapping areas based on the antenna coverage for primary areas and other secondary areas due to the antenna power or performance, and/or due to density of traffic whether in a commercial, industrial or business coverage areas, see col. 5/line 20 to col. 6/line 36).

As for claims 5, 24 and 43, Sabat discloses "wherein the demographic information comprises an indication of whether the customer is residential or business" (refer to Fig. 2, col. 1/line 54 to col. 2/line 8 for residential and business strategy for system designing).

Regarding claims 4, 6-8, 23, 25-27, 42, and 44-46, in view of claim 1, Sabat does not further mention the steps of "wherein the demographic information comprises age and income of the customers"; "wherein the parameters comprise a location of the second antenna system";

"wherein the parameters comprise property rights of the second antenna system"; and "wherein the parameters comprise frequency and power of the second antenna system"; however, in a same environment of broadcasting services to the users in an MMDS system, Hugenberg teaches that the content delivery to the users based on a plurality of factors including demographic information, age and income to different groups of peoples, RF hardward, topography, licenses (for property rights) etc. for delivering of services (Hugenberg, col. 3/line 40 to col. 4/line 64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sabat's system with disclosed technique of Hugenberg in order to obtain an enhanced communication system that dynamically providing services to the users based on plenty of factors as addressed.

As for claims 10 and 11, in further view of claim 1, Sabat discloses "wherein the first antenna system comprises a fixed wireless communication system" and "wherein the first antenna system comprises a Multichannel Multipoint Distribution System (MMDS)" (Figs. 1 & 2, and col. 5/line 59-67 for MMDS band of MMDS is included).

As for claim 12, Sabat discloses "wherein the second antenna system comprises a cellular antenna system" (Figs. 1 & 2, and col. 5/lines 20-58).

As for claims 13-15, these claims for "wherein determining the antenna system configuration further comprises determining a location of the first antenna system"; "comprising generating a submission for government licenses for location, frequency, and power"; and "wherein determining the communication traffic further comprises calculating a weighted average throughput" are taught by Sabat (refer to col. 9/lines 52-65 for the antenna configuration is optimized based on geographic location or traffic and government restriction, as noted in col.

1/line 54 to col. 2/line 8 due to zoning by local government; and due to density of traffic whether in a commercial, industrial or business coverage areas, see col. 5/line 20 to col. 6/line 36).

As for claims 16-19, 34-38, and 53-57, Hugenberg further teaches "wherein determining the communication traffic further comprises determining traffic weighting patterns based on penetration rates and data throughputs"; "wherein determining the performance of the first antenna system further comprising executing a radio frequency analysis based on the first antenna system"; "wherein determining the performance of the first antenna system further comprising executing a traffic simulation based on the first antenna system"; and "wherein determining the performance of the first antenna system further comprising executing an interference analysis based on the first antenna system" (see claims 4-8 above, more on col. 3/line 32 to col. 4/line 64 for the operator can determine the resources and allocates the traffic weighting patterns based on rates and data throughputs together with RF analysis and network interference evaluation for the antenna systems).

Regarding claims 20-22 and 29-33, these claims for "a design system for designing a first antenna system, the design system comprising: a processor system configured to retrieve demographic information of customers from a first database system, determine communication traffic based on the demographic information, retrieve parameters of a second antenna system from a second database system, determine an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system, and determine a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system; and an interface connected to the processor and configured to transfer the demographic information from the first database system to the

processor and transfer the parameters of the second antenna system from the second database system" are rejected for the reasons given in the scope of claims 1-3, and 9-15 in view of the combination of Sabat and Hugenberg as discussed above.

Regarding claims 39-41 and 48-52, these claims for a software product for designing a first antenna system in a communication system as addressed are rejected for the reasons given in the scope of claims 1-3, and 10-15 in view of Sabat and Hugenberg as discussed above.

Allowable Subject Matter

4. Claims 9, 28, and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

As for claims 9, 28, and 47, the prior arts of record do not further teach or suggest a design system and its method as cited in claims 1, 20, and 39, respectively, AND the step of "wherein determining the antenna system configuration for the first antenna system comprises: retrieving access road information from a third database system; retrieving topography information from a fourth database system; retrieving land usage information from a fifth database system; and retrieving image information from a sixth database system."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hageltorn et al and Stilp et al (PTO-892 attached) disclose systems related to antenna designing or configuration due to demographics.

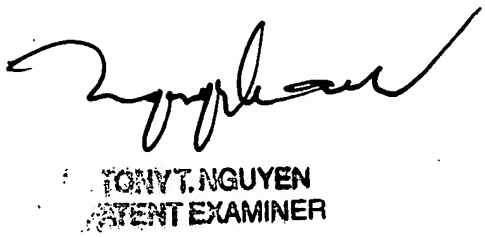
7. **Any response to this action should be mailed to:**
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to the New Central Fax number:
(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony T. Nguyen
Art Unit 2685
November 07, 2005